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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CORRIELUS, JEAN B

ART UNIT PAPER NUMBER

2637

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/678,165

Applicant(s)

ATARIUS ET AL.

Examiner

Jean B Corrielus

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-14,17-25 and 27-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,13 and 27 is/are rejected.
- 7) ☒ Claim(s) 8-12,14,17-25 and 28-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 3/17/05 has been entered.

Claim Objections

2. Claims 1, 3-14, 17-25, 27-39 are objected because of the following informalities:

Claim 1, line 7, before signal, "received" should be inserted. The same comment applies to claim 11, line 2; claim 12, line 2 and claim 13, line 2.

claim 8, line 4, "shifted variable and a non-shifted variable" should be " plurality of shifted variables" as the shifting step outputs more than one shifted signal.

claim 9, line 3, "variable" should be "variables". The same comment applies to claim 11 and claim 12, line 1.

Claim 14, line 6, "at least one" should be replaced by "a" as the code generator according to the specification and the drawings is configured to generate only "one code sequence". the same comment applies to lines 7-8 and line 12; lines 9-10, "at least one shifter " should be replaced by "a plurality of/at least two shifters" in both occurrences

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as more than one shifter is required to be used according to the specification and the drawings; line 9, after location, --and said signal—should be inserted; line 10, after “of said signal”, --based on said first location—should be inserted; line 10, “a shifted version” should be “a plurality of shifted versions” as the plurality of/the at least two shifters is outputting a shifted signal each; line 11, “at least one correlator” should be replaced by “by a plurality of/at least two correlators” in both occurrences to be consistent with the drawings and the specification that requires a plurality of correlators to be used.

claim 21, lines 1-2, “said at least one correlator comprises a plurality of correlators” should be deleted, as such limitation will become redundant if claim 14 is amended in the manner suggested above.

claim 22, line 3, “said at least one correlator comprises a plurality of correlators” should be deleted see claim 21; last line, “or a related value” should be deleted.

claim 25, lines 2-3, “ at least one output from said at least one correlator” should be replaced by “ the outputs of said correlators as the comparison part requires more than one input; line 3, “at least one of” should be deleted.

claim 28, line 3, “a” should be replaced by --said--; line 5, “at least” should be deleted as there is no embodiment where both the code and the signal are shifted.

claim 29, line 6, “at least one” should be replaced by “a” as the code generator according to the specification and the drawings is configured to generate only “one code sequence”, the same comment applies to line 9; line 8, “at least one shifter ” should be replaced by “a plurality of/at least two shifters” as more than one shifter is required to

be used according to the specification and the drawings, the same comment applies to similar recitation in line 9; line 8-9, "and at least one of" should be deleted; line 9, "and" should be replaced by "or" as there is no embodiment where the shifter is configured to receive only two signals as input; line 9-10, "at least one of" should be replaced by "either"; line 11, "shifting" should be "a shifting of"; line 12, "and" should be "or"; line 13, "a shifting of said at least one" should be "a shifting of said"; line 13, "shifted version" should be replaced by "plurality of shifted versions"; end of line 13, "at least one" should be deleted"; line 15 should be replaced by "a plurality of/at least two correlators, said plurality of/at least two correlators"; line 17, "; and" should be replaced by ", when said signal is shifted by said shifters; or"; last line, after location, "when said code sequence is shifted by said shifters"; lines 15-18 "at least one" should be deleted before code, in each occurrence.

As per claim 30, as per the limitations "at least one shifter", "at least one code sequence" and "shifted version", see claim 29.

As per claim 35, see claim 21.

As per claim 36, see claim 22.

As per claim 39, see claim 25.

Note that any claim whose base claim is objected is likewise objected.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 13 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable Struhsaker et al US Patent No. 6,434,185 in view of Philips US Application 6,597,727.

As per claim 1, Struhsaker et al discloses a method and apparatus see the drawing having an input for receiving a signal; processing said signal to produce a first location having a first precision see output of elements 20, 32 and 34; processing said signal and a generated code using said first location see output of element 34 to produce a second location having a second precision said first precision being less than said second precision see the drawing. However, Struhsaker does not explicitly teach the signal is decimated before the processing steps. However, such limitation does not include any inventive step. For instance, Philips discloses the further step of decimating the signal using element 240 prior to generating the first location (peak) at the output of the correlation circuit 234. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Struhsaker in order to reduce system complexity and at the same time enhance processing speed as a portion of the received signal would have been process by the receiver.

As per claim 3, Philips teaches the used of oversample clock signal to sample the incoming signal see col. 17, lines128-47. Note that oversampling involves the

sampling of the incoming signal at a rate multiple of the highest frequency of the incoming signal or a rate multiple of the chip rate. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Struhsaker et al in order to avoid aliasing.

As per claim 4, it would have been obvious to one skill in the art to implement the communication system in the CDMA environment so as to take advantage of its enhanced technological features such as collision avoidance and multiple access into the network.

As per claim 13, it would have been obvious to one skill in the art to forward said at least one second location to rake fingers to enable subsequent maximum ratio combining of said signal so as to recover the original signal.

As per claim 27, it would have been obvious to one skill in the art to oversample said signal so as to avoid aliasing.

5. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable Struhsaker et al US Patent No. 6,434,185 in view of Philips further in view of Zhou et al, EP 0757450 A2.

As per claim 5, Struhsaker and Philips disclose every feature of the claimed invention but do not explicitly teach that the first location is determined by applying the decimated signal to a filter. However, generating a first location by applying a signal to a filter is well known in the art for instance, Zhou teaches such limitation see matched filter MF. It would have been obvious to one skill in the art to incorporate such a

teaching in Struhsaker and Philips so as to generate signal peaks required to determine accurately the location of the signal.

As per claim 6, it would have been obvious to one skill in the art to use a FIR filter as part of a matched filter in determining the signal location and the reason to do so would have been the same as provided above in reference to claim 5.

As per claim 7, Zhou teaches an output of the filter (MF) is applied to a peak detector FH) to determine the first location (output of the peak detector (TH). Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Struhsaker and Philips so as to identify the peak included in the signal as each peak is an indication of the reception of a desired signal.

Allowable Subject Matter


6. Claims 8-12 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 14, 17-25, 29-39 would be allowable if amended to overcome the objection sets forth above.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-3086. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean B Corrielus
Primary Examiner
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6-10-05